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ABSTRACT

Studies of desegregation effects on student achievement show no clear trends, although most of the studies report positive outcomes. The variance reported in desegregation studies has been attributed to: 1) type of desegregation plan; 2) duration of desegregation; 3) characteristics of the schools and communities involved; and 4) methodology used in desegregation research. In the Clark County, Nevada School District, changes in student achievement were observed between 1972 and 1981, a period during which the Sixth Grade Plan of Integration was in effect in the district. In September, 1972, the Plan of Integration established sixth grade centers in what had been predominantly black neighborhood elementary zones. Sixth graders from throughout the metropolitan area were bused to the centers, while first to fifth grade black students from the zones in which the centers were located were transported to other schools in the metropolitan area. Comparisons of 1972 and 1981 student achievement measures indicated that since implementation of the Plan, academic performance among blacks, non-blacks, and whites improved, with the gains being particularly pronounced among blacks. Achievement differences between blacks and other student subgroups persisted, although the gains recorded by blacks greatly reduced the disparity. If trends continue, the disparities may eventually disappear. (Author/MJL)

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DESEGREGATION REPORT
(1981)

Prepared by

The Department of Research and Development
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DESEGREGATION REPORT
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INTRODUCTION

The primary emphasis of this assessment was to investigate the effect of the structural reorganization required by forced busing on elementary student achievement in the Clark County School District. The 1971-72 school year marked the end of desegregation in Clark County under the "open enrollment" Integration Plan. The Board of School Trustees, at the April 8, 1971 meeting, adopted the Sixth Grade Center Plan of Integration. The plan was implemented the following year in September, 1972. This plan established seven centers for housing sixth grade students in attendance areas which had previously been neighborhood elementary zones predominantly populated by black families. Sixth grade students from throughout the metropolitan area were bused to these centers according to a predetermined school feeder-zone alignment. Black students in first through fifth grades residing in the former elementary zone boundaries of the centers were transported to elementary schools in the metropolitan area.

Exceptions to involvement in the Sixth Grade Center Plan were permitted as a result of an elementary school's attendance area being naturally integrated. Likewise, since school attendance is not compulsory in Nevada until age six, kindergarten students were exempt and continued to attend neighborhood schools at the option of their parents. In addition, outlying schools in various parts of the county were not included in the plan.

Since the initial implementation of the plan, the District has experienced a considerable increase in student enrollment, ethnic population shifts, residential building expansion,

and extensive student housing construction. However, the District has continued to meet the guidelines set forth in the federal court-ordered desegregation, with limited modifications as dictated by population growth and location factors.

PURPOSE OF THE STUDY

The purpose of this assessment is to report on two dimensions of integration. They are:

1) current literature on the effects of desegregation on student achievement, and
2) changes in Clark County School District student achievement ascertainable since implementation of the Plan of Integration.

Relative to changes in Clark County School District student achievement measures, the study will seek answers to the following questions.

1. Do District-wide test results reflect any changes since desegregation?
2. Do black students' test results reflect any changes since desegregation?
3. Do non-black students' test results reflect any changes since desegregation?
4. Do white students' test results reflect any changes since desegregation?
5. Does the black/non-black achievement gap reflect any changes since desegregation?
6. Does the black/white achievement gap reflect any changes since desegregation?

REVIEW OF LITERATURE

It is the intent of this section to briefly highlight elements of the literature related to the educational effects of desegregation. While this report is basically concerned with student

achievement, it should be stated that the purpose of a quality integrated educational experience should be viewed as embracing a wider spectrum of concerns.

Ewald B. Nyquist, former Commissioner of Education for the State of New York, addressed one of these concerns when he defined integrated education as

> . . . one in which the child learns that he lives in a multiracial society, in a multiracial world, a world which is largely nonwhite, nondemocratic, and non-Christian, a world in which no race can choose to live apart. It is one that teaches him to judge individuals for what they are rather than for what group they belong to. From this viewpoint, he learns that differences among people are not as great as similarities, and that difference is a source of richness and value rather than a thing to be feared and denied.

The Plan of Integration, as presently in operation by the District, most assuredly affords students the experience advocated by Nyquist's position.

In terms of the effects of desegregation on achievement test scores, Sheehan et al. (1978) reported " . . . the results of one study were likely to be contradicted by the results of another study." Crain et al. (1979) attributed such contradiction to two factors. First, they feel that many of those currently doing research on this subject are confusing the issues of policy-making and cost-benefit analysis. Second, Crain feels that

> Research which asks about "the" effect of desegregation is not only irrelevant for policy, it is also theoretically unsound. It assumes that desegregation is some sort of controlled laboratory treatment, like a clinically pure drug. But the fact is that a desegregation plan used in one community may raise test scores at the same time that a different type of plan used in a different type of community does not. The effects are not identical because the two situations are not identical treatments.

Therefore, it becomes necessary to identify numerous factors which may influence the achievement measures resulting from a specific study. Among these are:

- the demographic characteristics of the community

- the type of desegregation plan
- the duration of desegregation in the schools under consideration
- the presence of special efforts to prepare students and/or staff for desegregation
- the racial composition of schools before and after desegregation
- the grade levels of desegregated students
- the presence of special programs to improve the quality of education
- the methodology used in the research
- the source of research funding, the position held by the researchers, and the form of publication.

A 1979 publication entitled Desegregation and Black Achievement, issued by the Rand Corporation, cited seventy-three separate desegregation studies reviewed by recognized experts in the field of educational research. Of the seventy-three studies, a total of forty (55%) were validated as having had a positive effect in terms of student achievement, twenty-one (29%) reflected a zero impact relative to achievement, and twelve (16%) indicated a negative effect on measured student achievement. The authors felt that for blacks, desegregation sometimes results in better curricula, better facilities, and better trained or more cognitively skilled teachers, and almost always results in socioeconomic desegregation. In light of these possible changes, the authors stated "When desegregation is accompanied by all this, it should not surprise us that there are immediate (black) achievement gains half to two-thirds of the time."

Generally speaking, the effects of desegregated education as interpreted by a review of the literature could be summarized as follows.

1. Studies of the effects of desegregated education on student achievement report divergent outcomes.

2. More of the studies revealed positive rather than negative performance measures in student achievement.

3. Much of the variance reported in desegregation studies is the product of the approach taken, situational demographic characteristics of the school/community and/or methodologies of the research.

4. Desegregated education can be supported by the mere fact that it is reflective of America's existing multiracial society.

5. Most desegregation studies report that the minority-white achievement gap continues to persist.

6. Studies of the initial effects of desegregation rarely show statistically significant gains.

ASSESSMENT DESIGN

The purpose of the assessment design is to provide a methodology for investigating patterns and/or sequences of change in student achievement levels as a function of time. Toward this end, a cross-sectional time-series assessment design was utilized. Cross-sectional achievement studies measure the nature and rate of changes by populations of different students. A cross-sectional comparison provides a method of determining if the average level of norm-referenced measures of student performance changes over a specific time period. The resulting comparisons are not based on the same students, but rather on comparisons of achievement patterns for pre/post desegregation time frames.

The design employs the use of Normal Curve Equivalents (NCEs) for the norm-referenced achievement scores being compared in this study. The NCEs reported in this study are derived from mean percentile rank scores. A percentile rank indicates what percent of

pupils in the norm group achieved the same score or lower scores on a specific test. However, percentile gains have different meanings at different places on the percentile scale. Therefore, it is statistically inappropriate to compare percentile increases over time from one group of students to another. To avoid this inconsistency with percentile gains, NCE conversions were used to provide a more accurate comparison of achievement gains. As a point of interpretive information, percentiles and NCEs match at the 1st, 50th, and 99th points on the distribution scale, with a gain of 10 NCEs the same wherever it occurs on the scale. However, the reader is cautioned to remember that NCEs, like all other norm-referenced scores, describe comparative performance in relation to the norming group and are not absolute comparisons. (See Attachment A, Conversion Chart.)

In order to formulate responses to the questions posed in the "Purpose of the Study," data for the following cross-sectional comparisons are presented in the "Findings" for the various grade levels and designated subpopulations. The spring 1972 test data are Metropolitan Achievement Test (MAT) scores. Test data from spring 1981 are Stanford Achievement Test (SAT) scores. The reader will observe an element of inconsistency in terms of grade level comparison (e.g., fourth to third, fifth to sixth) coupled with subpopulation variation (e.g., non-black and white). These variations were necessitated by the baseline data available from previous desegregation studies conducted in the District.

1.0 District-Wide Achievement Comparisons

- 1.1 Fourth grade MAT, 1972, to third grade SAT, 1981.
- 1.2 Sixth grade MAT, 1972, to sixth grade SAT, 1981.

2.0 Black Student to Black Student Comparisons

2.1 Second grade MAT, 1972, to third grade SAT, 1981.

2.2 Fifth grade MAT, 1972, to sixth grade SAT, 1981.

2.3 Sixth grade MAT, 1972, to sixth grade SAT, 1981.

3.0 Non-Black Student to Non-Black Student Comparisons

3.1 Fifth grade MAT, 1972, to sixth grade SAT, 1981.

4.0 White Student to White Student Comparisons

4.1 Second grade MAT, 1972, to third grade SAT, 1981.

4.2 Sixth grade MAT, 1972, to sixth grade SAT, 1981.

5.0 Comparison of Black Student to Non-Black Student Differences

5.1 Fifth grade MAT, 1972, to sixth grade SAT, 1981.

6.0 Comparison of Black Student to White Student Achievement Differences

6.1 Second grade MAT, 1972, to third grade SAT, 1981.

6.2 Sixth grade MAT, 1972, to sixth grade SAT, 1981.

LIMITATIONS

The results of this study are based on the Metropolitan Achievement Test and the Stanford Achievement Test. Therefore, the results reported only reflect performance as measured by these instruments.

FINDINGS

This element of the investigation is to provide data to determine if the average achievement

levels of populations and identified subgroups have changed and, if so, in what direction since implementation of the School District's Plan of Integration.

Question 1 Do District-wide test results reflect any changes since desegregation?

Figure 1 provides a comparison of District-wide mean achievement levels of fourth graders on the Metropolitan Achievement Test in April, 1972, to third grade mean results on the Stanford Achievement Test in April, 1981. In 1972, the fourth grade District-wide mean NCE performance for Total Reading was 45.8, a score equivalent to the 42nd percentile rank, which represents an average performance well below the national average. The current third grade mean NCE performance is 56.4, a score equivalent to the 62nd percentile rank, which represents a position considerably above the national average. The difference in the two performance levels, from 45.8 to 56.4, is 10.6 NCE unit gains. Subsequent comparisons for the two points in time (spring 1972 to spring 1981) are provided for the other eight subtests. It is apparent from the data that the current level of performance for the District's third graders consistently shows extensive NCE gains when compared to District-wide fourth grade results reported in the spring of 1972. When the data are viewed relative to national performance, the District consistently scored below the national average (NCE = 50) on all subtests in 1972; conversely, all subtest scores for the present third grade consistently exceed the national average. The NCE gains for the nine-year time frame range from 6.4 to 19.3.

Figure 2 provides a similar comparison of District-wide sixth grade mean performance for 1972 and 1981. While the sixth grade comparisons are not as extensive as those exhibited in Figure 1, they are nevertheless consistently and significantly positive relative to NCE

FIGURE 1

DISTRICT-WIDE NORM-REFERENCED TEST
CROSS-SECTIONAL COMPARISON
(1971-72 and 1980-81)

Metropolitan Achievement Test/Stanford Achievement Test	GRADE 4 Spring '72 N=6,100+	GRADE 3 Spring '81 N=5,600+	Gain
Word Knowledge/Vocabulary	46.8	59.9	13.1
Reading/Reading Comprehension	46.8	53.2	6.4
Reading Total/Reading Total	45.8	56.4	10.6
Spelling/Spelling	44.7	51.6	6.9
Language/Language	42.5	55.3	12.8
Math Concepts/Math Concepts	43.6	62.9	19.3
Math Computation/Math Computation	43.6	61.7	18.1
Math Problem Solving/Math Application	42.5	51.1	8.6
Math Total/Math Total	41.3	59.9	18.6

gains, which range from a low of 2.6 to a high of 12.8. In all instances, the present District-wide performance exceeds the national average as measured by the Stanford Achievement Test.

Therefore, in response to Question 1, present measured levels of District-wide test results uniformly reflect improvement from the levels recorded prior to desegregation.

Question 2 Do black students' test results reflect any changes since desegregation?

Figure 3 lists all of the corresponding test results for the subtests of the Metropolitan Achievement Test (MAT) and Stanford Achievement Test (SAT) of second grade blacks in April, 1972, and third grade black students in April, 1981. The subpopulation performance levels are reported relative to the national norming group performance levels. This method of describing performance is called norm-referenced and permits a comparison of different grade levels. An inspection of the scores indicates that current black third graders are attaining higher relative achievement levels on each subtest than those recorded by black second graders nine years ago. In the spring of 1972, all subtest performance by second grade blacks placed their average achievement below the national average; the current black third grade average in the District exceeds the national average in four of nine subtests, with relatively close proximity in three other areas.

Figure 4 compares the performance of fifth grade black students in April, 1972, with the performance of sixth grade black students in April, 1981, on all the subtests of the MAT and SAT respectively. An inspection of these data reveals that they are again positive, with double-digit gains reported in each of the nine subtest areas.

FIGURE 2

DISTRICT-WIDE NORM-REFERENCED TEST
CROSS-SECTIONAL COMPARISON
(1971-72 and 1980-81)

Metropolitan Achievement Test/Stanford Achievement Test	GRADE 6 Spring '72 N=5,900+	GRADE 6 Spring '81 N=6,000+	Gain
Word Knowledge/Vocabulary	50.0	52.6	2.6
Reading/Reading Comprehension	46.8	53.2	6.4
Reading Total/Reading Total	47.9	55.3	7.4
Spelling/Spelling	46.8	52.1	5.3
Language/Language	44.7	56.4	11.7
Math Concepts/Math Concepts	47.9	60.4	12.5
Math Computation/Math Computation	43.6	56.4	12.8
Math Problem Solving/Math Application	45.8	53.2	7.4
Math Total/Math Total	45.8	57.0	11.2

FIGURE 3

NORM-REFERENCED TEST COMPARISON
BLACK TO BLACK
PRE/POST DESEGREGATION

Metropolitan Achievement Test/Stanford Achievement Test	GRADE 2 Spring '72 N=650+	GRADE 3 Spring '81 N=750+	Gain
Word Knowledge/Vocabulary	36.5	51.1	14.6
Word Analysis/Word Skill	43.6	51.6	8.0
Reading/Reading Comprehension	36.5	45.8	9.3
Reading Total/Reading Total	37.7	47.9	10.2
Spelling/Spelling	42.5	47.9	5.4
Math Computation/Math Computation	32.3	56.4	24.1
Math Concepts/Math Concepts	30.7	52.6	21.9
Math Problem Solving/Math Application	36.5	43.6	7.1
Math Total/Math Total	29.1	49.5	20.4

FIGURE 4

NORM-REFERENCED TEST COMPARISON
BLACK TO BLACK
PRE/POST DESEGREGATION

Metropolitan Achievement Test/Stanford Achievement Test	GRADE 5 Spring '72 N=700+	GRADE 6 Spring '81 N=750+	Gain
Word Knowledge/Vocabulary	29.9	41.3	11.4
Reading/Reading Comprehension	32.3	44.1	11.8
Reading Total/Reading Total	30.7	46.3	15.6
Spelling/Spelling	38.3	48.9	10.6
Language/Language	30.7	48.4	17.7
Math Computation/Math Computation	29.1	50.0	20.9
Math Concepts/Math Concepts	32.3	50.5	18.2
Math Problem Solving/Math Application	29.9	43.0	13.1
Math Total/Math Total	27.2	47.4	20.2

The NCE gains reported in Figure 5, which compare 1972 and 1981 test results for sixth grade black students, are truly exceptional. For example, the composite gain of all four math scores is 99.2 NCEs compared to the performance total of 91.7 NCEs for the 1972 students, meaning that the current black sixth graders have more than doubled the math performance of their predecessors.

In response to Question 2, there is far-ranging evidence to support the contention that the current sixth grade black student's performance greatly exceeds the measured levels prior to desegregation.

Question 3 Do non-black students' test results reflect any changes since desegregation?

Figure 6 provides a comparative display of fifth grade non-black performance on the MAT from 1972 to sixth grade non-black performance on the SAT from 1981. The comparison indicates that non-black students have enjoyed gains of a more modest nature than those reported for black students. The gains range from 2.1 to 12.8 NCE units and show the non-black population to be exceeding the national norming group performance in all subtest areas.

In response to Question 3, the data would lend credence to the statement that non-black students have increased their relative achievement performance since desegregation.

Question 4 Do white students' test results reflect any changes since desegregation?

Figure 7 reflects NCE differences for a sample (N=300+) of white second grade students in 1972 and the white population of third graders for 1981. For the nine subtest areas

FIGURE 5

NORM-REFERENCED TEST COMPARISON
BLACK TO BLACK
PRE/POST DESEGREGATION

Metropolitan Achievement Test/Stanford Achievement Test	GRADE 6 Spring '72 N=500+	GRADE 6 Spring '81 N=750+	Gain
Word Knowledge/Vocabulary	27.2	41.3	14.1
Word Analysis/Word Skill	27.2	48.9	21.7
Reading/Reading Comprehension	27.2	44.1	16.9
Reading Total/Reading Total	25.3	46.3	21.0
Spelling/Spelling	32.3	48.9	16.6
Math Computation/Math Computation	23.0	50.0	27.0
Math Concepts/Math Concepts	25.3	50.5	25.2
Math Problem Solving/Math Application	23.0	43.0	20.0
Math Total/Math Total	20.4	47.4	27.0

FIGURE 6

NORM-REFERENCED TEST COMPARISON
NON-BLACK TO NON-BLACK
PRE/POST DESEGREGATION

Metropolitan Achievement Test/Stanford Achievement Test	GRADE 5 Spring '72 N=5,400+	GRADE 6 Spring '81 N=5,200+	Gain
Word Knowledge/Vocabulary	52.1	54.2	2.1
Reading/Reading Comprehension	47.4	54.8	7.4
Reading Total/Reading Total	50.5	57.0	6.5
Spelling/Spelling	47.9	52.1	4.2
Language/Language	46.8	57.5	10.7
Math Computation/Math Computation	45.2	57.0	11.8
Math Concepts/Math Concepts	49.5	62.3	12.8
Math Problem Solving/Math Application	47.4	54.8	7.4
Math Total/Math Total	47.9	58.1	10.2

being reported, five areas indicate gains, one area remains the same, and three areas reflect losses. In order to determine the overall impact, the "Gains" column was summed, which produces a positive composite of 28.3 NCEs. The composite gain of 28.3 NCEs would suggest that white third graders are, on the average, outperforming white second graders of nine years ago on relative achievement scores. It should be further noted that spelling is the only area in which the loss is of such magnitude as to be educationally significant.

Figure 8 consistently places the present sixth grade white students with measured achievement levels in excess of the sixth grade white students of nine years ago. The range of achievement gains is 2.7 to 14.0 NCE units, with an overall composite gain of 79.8 NCEs.

In response to Question 4, the composite data for the two comparisons provided would indicate that current white students are outperforming their counterparts of nine years ago.

Question 5 Does the black/non-black achievement gap reflect any changes since desegregation?

Figure 9 shows the achievement gap existing between black and non-black fifth graders in 1972, in tandem with current black and non-black sixth grades, followed by the "Gain" evidenced by black students. It is apparent from the data displays that black students have diminished the measured achievement differences in a highly significant manner over the nine-year period. The average achievement gap in 1972 was 17.14 NCEs; the current

FIGURE 7

NORM-REFERENCED TEST COMPARISON
WHITE TO WHITE
PRE/POST DESEGREGATION

Metropolitan Achievement Test/Stanford Achievement Test	GRADE 2 Spring '72 N=300+*	GRADE 3 Spring '81 N=4,300+	Gain
Word Knowledge/Vocabulary	57.5	62.3	4.8
Word Analysis/Word Skill	58.7	60.4	1.7
Reading/Reading Comprehension	55.3	54.8	- 0.5
Reading Total/Reading Total	58.7	58.7	0.0
Spelling/Spelling	59.9	52.1	- 7.8
Math Computation/Math Computation	54.2	62.9	8.7
Math Concepts/Math Concepts	51.1	64.9	13.8
Math Problem Solving/Math Application	54.2	53.7	- 0.5
Math Total/Math Total	54.2	62.3	8.1

*Sample

FIGURE 8

NORM-REFERENCED TEST COMPARISON
WHITE TO WHITE
PRE/POST DESEGREGATION

Metropolitan Achievement Test/Stanford Achievement Test	GRADE 6 Spring '72 N=350+*	GRADE 6 Spring '81 N=4,700+	Gain
Word Knowledge/Vocabulary	53.2	55.9	2.7
Word Analysis/Word Skill	50.0	58.7	8.7
Reading/Reading Comprehension	52.1	55.3	3.2
Reading Total/Reading Total	46.8	57.5	10.7
Spelling/Spelling	46.8	52.6	5.8
Math Computation/Math Computation	44.7	57.0	12.3
Math Concepts/Math Concepts	48.9	62.9	14.0
Math Problem Solving/Math Application	45.8	55.3	9.5
Math Total/Math Total	45.8	58.7	12.9

*Sample

average achievement gap measured 9.77 NCEs, indicating that the average achievement gap has been reduced 43 percent since 1972. The present achievement differences range from 3.2 to 12.9 NCE units, down considerably from the reported range in 1972 of 9.6 to 22.2 NCE units.

In response to Question 5, the data clearly support the contention that the achievement gap between black and non-black students has been significantly diminished.

Question 6 Does the black/white achievement gap reflect any changes since desegregation?

Figure 10 provides measured achievement differences between black and white second graders prior to desegregation and current achievement differences for identical subgroups at the third grade level in 1981, with the "Gains" evidenced by black students during that time period. An inspection of the data indicates numerous instances where the achievement differences have been virtually cut in half. Observation of the "Word Knowledge/Vocabulary" subtest shows a performance difference of 21.0 NCEs for the 1972 comparisons. The current performance difference has been diminished to 11.2 NCEs. This example is indicative of having reduced the difference by some 47 percent. A similar comparison for "Math Computation" reflects that the performance difference has been reduced by over 70 percent.

Figure 11 shows double-digit NCE gains in all subtests for black sixth grade students in comparison with their white peers since implementation of the desegregation plan. In 1972, the average achievement gap for black/white student performance was 22.58 NCEs;

FIGURE 9

COMPARISON OF BLACK AND NON-BLACK ACHIEVEMENT DIFFERENCES
PRE/POST DESEGREGATION

Metropolitan Achievement Test/Stanford Achievement Test	GRADE 5 Achievement Differences Spring '72	GRADE 6 Achievement Differences Spring '81	Gain
Word Knowledge/Vocabulary	22.2	12.9	9.3
Reading/Reading Comprehension	15.1	10.7	4.4
Reading Total/Reading Total	19.8	10.7	9.1
Spelling/Spelling	9.6	3.2	6.4
Language/Language	16.1	9.1	7.0
Math Computation/Math Computation	16.1	7.0	9.1
Math Concepts/Math Concepts	17.2	11.8	5.4
Math Problem Solving/Math Application	17.5	11.8	5.7
Math Total/Math Total	20.7	10.7	10.0

Metropolitan Achievement Test N-Count	Black = 700+	Non-Black = 5,400+
Stanford Achievement Test N-Count	Black = 750+	Non-Black = 5,200+

FIGURE 10

COMPARISON OF BLACK AND WHITE ACHIEVEMENT DIFFERENCES
PRE/POST DESEGREGATION

Metropolitan Achievement Test/Stanford Achievement Test	GRADE 2 Achievement Differences Spring '72	GRADE 3 Achievement Differences Spring '81	Gain
Word Knowledge/Vocabulary	21.0	11.2	9.8
Word Analysis/Word Skill	15.1	8.8	6.3
Reading/Reading Comprehension	18.8	9.0	9.8
Reading Total/Reading Total	21.0	10.8	10.2
Spelling/Spelling	17.4	4.2	13.2
Math Computation/Math Computation	21.9	6.5	15.4
Math Concepts/Math Concepts	20.4	12.3	8.1
Math Problem Solving/Math Application	17.7	10.1	7.6
Math Total/Math Total	25.1	12.8	12.3

Metropolitan Achievement Test N-Count Black = 650+ White = 300+ (Sampling)

Stanford Achievement Test N-Count Black = 750+ White = 4,300+

FIGURE 11

COMPARISON OF BLACK AND WHITE ACHIEVEMENT DIFFERENCES
PRE/POST DESEGREGATION

Metropolitan Achievement Test/Stanford Achievement Test	GRADE 6 Achievement Differences Spring '72	GRADE 6 Achievement Differences Spring '81	Gain
Word Knowledge/Vocabulary	26.0	14.6	11.4
Word Analysis/Word Skill	22.8	9.8	13.0
Reading/Reading Comprehension	24.9	11.2	13.7
Reading Total/Reading Total	21.5	11.2	10.3
Spelling/Spelling	14.5	3.7	10.8
Math Computation/Math Computation	21.7	7.0	14.7
Math Concepts/Math Concepts	23.6	12.4	11.2
Math Problem Solving/Math Application	22.8	12.3	10.5
Math Total/Math Total	25.4	11.3	14.1

Metropolitan Achievement Test N-Count Black = 500+ White = 350+ (Sampling)

Stanford Achievement Test N-Count Black = 750+ White = 5,200+

the current difference is 10.33 NCEs. A comparison of the NCE differences indicates that black students have diminished the difference by more than 54 percent. The 1972 comparison of achievement differences produced a range of 14.5 to 25.4, which has been presently reduced to 3.7 to 14.6 units.

In response to Question 6, there is overwhelming evidence to indicate that the prior level of achievement difference between black and white student performance has been meaningfully reduced.

SUMMARY

A review of current literature on the effects of desegregation via forced busing on measured student achievement reveals that no clear trend has been shown to exist. Both positive and negative effects on student achievement have been postulated and documented with a higher incident of positive outcomes evidenced. A large degree of the divergent variance in the literature can be accounted for in terms of the desegregation plan, the purpose and intent of desegregation plan, and related situational characteristics of the schools and/or communities. In addition, the current literature suggests that contradictory results could be the product of confusion in the assumptions and/or methodology of the studies conducted.

This investigation has substantially established that measured achievement performance of elementary students in the Clark County School District has increased since the implementation of the "Plan of Integration." Present measured levels of District-wide test results uniformly reflect improvement when compared to the levels recorded prior to desegregation. Current black students' performance greatly exceeds the measured levels prior to desegregation. Non-black students have reflected gains of a more modest nature than those reported

for black students. Current white students are outperforming their counterparts of nine years ago--the specific time period used in this study. Data displays are evidence of confirmation that the black students have significantly decreased the measured achievement differences between themselves and other identified populations over the nine-year period this plan has been implemented. All subgroups investigated have generally recorded increased levels of achievement, and the current achievement profiles of the black population reflect a more pronounced gain than those of non-black or white students. The results of the study indicate that a difference in achievement between black and non-black/white students continues to persist; however, the gains recorded by black students have greatly reduced the disparity. A continuation of the growth trends evidenced in this study would ultimately remove achievement discrepancies for the black/white population.

DLB
06/01/81

Percentile to Normal Curve Equivalent Conversion Table

%	NCE	%	NCE	%	NCE
1	1.0	41	45.2	71	61.7
2	6.7	42	45.8	72	62.3
3	10.4	43	46.3	73	62.9
4	13.1	44	46.8	74	63.5
5	15.4	45	47.4	75	64.2
6	17.3	46	47.9	76	64.9
7	18.9	47	48.4	77	65.6
8	20.4	48	48.9	78	66.3
9	21.8	49	49.5	79	67.0
10	23.0	50	50.0	80	67.7
11	24.2	51	50.5	81	68.5
12	25.3	52	51.1	82	69.3
13	26.3	53	51.6	83	70.1
14	27.2	54	52.1	84	70.9
15	28.2	55	52.6	85	71.8
16	29.1	56	53.2	86	72.8
17	29.9	57	53.7	87	73.7
18	30.7	58	54.2	88	74.7
19	31.5	59	54.8	89	75.8
20	32.3	60	55.3	90	77.0
21	33.0	61	55.9	91	78.2
22	33.7	62	56.4	92	79.6
23	34.4	63	57.0	93	81.1
24	35.1	64	57.5	94	82.7
25	35.8	65	58.1	95	84.6
26	36.5	66	58.7	96	86.9
27	37.1	67	59.3	97	89.6
28	37.7	68	59.9	98	93.3
29	38.3	69	60.4	99	99.0
30	39.0	70	61.0		
31	39.6				
32	40.1				
33	40.7				
34	41.3				
35	41.9				
36	42.5				
37	43.0				
38	43.6				
39	44.1				
40	44.7				

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